AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for determining a state-of-charge of a battery, ~~characterized in that~~ comprising the steps of evaluating a transition frequency ($f_{\pm}$) of an impedance ~~(Z) is evaluated~~ for a battery ~~(40)~~, which is excited by an alternating current, and assigning the transition frequency ~~($f_{\pm}$) is assigned~~ to the state-of-charge of the battery ~~(40)~~, ~~whereby~~ wherein the transition frequency ~~($f_{\pm}$)~~ is a frequency of the alternating current at which the imaginary part ~~(Z'')~~ of the impedance ~~(Z)~~ of the battery ~~(40)~~ vanishes.

2. (Currently amended) The method according to Claim 1, ~~characterized in that~~ comprising exciting the battery ~~(40) is excited~~ by noise signals which are generated by ~~the~~ loads ~~(10)~~ in ~~the~~ a power net which comprises the battery ~~(40)~~, and/or by an alternating current source ~~(20)~~ contained in the power net.

3. (Currently amended) The method according to ~~one or both of Claims~~ claim 1 ~~and 2, characterized in that~~ comprising measuring the alternating voltage drop at the battery ~~(40) is measured~~.

4. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that~~ Claim 1, comprising measuring the intensity of the alternating current flowing through the battery ~~(40) is measured~~.

5. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that~~ Claim 1, comprising determining a phase difference between a phase of an alternating voltage and a phase of alternating current ~~is determined~~.

6. (Currently amended) The method according to ~~one or more of the preceding Claims characterized in that~~ Claim 1, comprising determining the transition frequency ~~($f_{\pm}$)~~ of the alternating current, at which the phase difference between the phase of the alternating voltage and the phase of the alternating current vanishes~~, is determined~~.

7. (Currently amended) The method according to ~~one or more of the preceding Claims characterized in that~~ Claim 1, comprising determining the complex impedance ~~(Z)~~ of the battery ~~(40) is determined~~.

8. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that~~ Claim 1, comprising determining the frequency ~~($f_\pm$)~~ of the alternating current, at which an imaginary part of the complex impedance ~~(Z)~~ vanishes, ~~is determined~~.

9. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that~~ Claim 1, comprising varying a frequency ~~(f)~~ of the alternating current, exciting the battery ~~(40), is varied~~.

10. (Currently amended) The method according to ~~one or more of the preceding Claims characterized in that an operating temperature of the battery (40) is taken into consideration in~~ Claim 1, wherein the assignment of the transition frequency ~~($f_\pm$)~~ to the state-of-charge ~~(SOC)~~ is a function of the operating temperature of the battery.

11. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that an intensity of a direct current flowing through the battery (40) is taken into consideration in~~ Claim 1, wherein the assignment of the transition frequency ~~($f_\pm$)~~ to the state-of-charge ~~(SOC)~~ is a function of an intensity of a direct current flowing through the batteryu.

12. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that an aging status of the battery (40) is taken into consideration in~~ Claim 1, wherein the assignment of the transition frequency ~~($f_\pm$)~~ to the state-of-charge ~~(SOC)~~ is a function of the aging status of the battery.

13. (Currently amended) The method according to ~~one or more of the preceding Claims, characterized in that~~ Claim1, comprising determining an aging status of the battery ~~(40) is determined~~.

14. (Currently amended) A device for determining a state-of-charge of a battery, ~~characterized in that it comprises~~ comprising ~~a means~~ an element for ~~the determination of~~ determining a transition frequency ~~($f_\pm$)~~ of an impedance ~~(Z)~~ of a battery ~~(40)~~, which is excited by an alternating current, and a calculation unit ~~(120)~~ for ~~the assignment of~~ assigning the transition frequency ~~($f_\pm$)~~ to the state-of-charge of the battery ~~(40)~~,

where the transition frequency ~~($f_\pm$)~~ is a frequency of the alternating current at which the imaginary part ~~(Z")~~ of the impedance ~~(Z)~~ of the battery ~~(40)~~ vanishes.

15. (Currently amended) The device according to Claim 14, ~~characterized in that it comprises~~ comprising a variable alternating current source ~~(30)~~.

16. (Currently amended) The device according to ~~one or both Claims 14 and 15 characterized in that~~ Claim 14, wherein the ~~means~~ element for ~~the determination~~ determining of the transition frequency ~~($f_\pm$)~~ comprises a sensor ~~(50)~~ for the measurement of an alternating voltage drop at the battery ~~(40)~~.

17. (Currently amended) The device according to ~~one or more of Claims 14 to 16, characterized in that~~ Claim 14, whrein the ~~means~~ element for ~~the determination~~ determining of the transition frequency ~~($f_\pm$)~~ comprises a sensor ~~(50)~~ for the measurement of the intensity of an alternating current flowing through the battery ~~(40)~~.

18. (Currently amended) The device according to ~~one or more of Claims 14 to 17, characterized in that that~~ Claim 14, wherein the ~~means~~ element for t~~he determination~~ determining of the transition frequency ~~($f_\pm$)~~ comprises at least a variable frequency filter ~~(80, 90, 150)~~ for filtering the measured current and voltage signals.

19. (Currently amended) The device according to ~~one or more of Claims 14 to 18, characterized in that~~ Claim 14, wherein the ~~means~~ element for ~~the determination~~ determining of the transition frequency ~~($f_\pm$)~~ comprises a phase comparator ~~(100)~~, which determines the phase difference between the filtered current and voltage signals.

20. (Currently amended) The device according to ~~one or more of Claims 14 to 19, characterized in that~~ wherein the ~~means~~ element for ~~the determination~~ determining of the transition frequency ~~($f_\pm$)~~ comprises a control unit ~~(110)~~, which scrutinizes the phase difference and modifies a transmitted frequency of the frequency filter ~~(80, 90)~~ and/or a frequency of the alternating current source ~~(30)~~, till the phase difference is null.

21. (Currently amended) The device according to ~~one or more of Claims 14 to 20, characterized in that~~ the ~~means~~ element for ~~the determination~~ determining of the

transition frequency (~~$f_\pm$~~) comprises a ~~means (160)~~ unit for the Fourier Transformation of the measured current and voltage signals.

22. (Currently amended) The device according to ~~one or more of Claims 14 to 21, characterized in that~~ Claim 14, wherein the ~~means~~ element for ~~the determination~~ determining of the transition frequency (~~$f_\pm$~~) comprises an analysis unit (~~170~~) for ~~analysing~~ analyzing the transformed signals and determining a frequency for which an imaginary part (~~Z"~~) of an impedance (~~Z~~) of the battery (~~40~~) vanishes.

23. (Currently amended) The device according to ~~one or more of Claims 14 to 22, characterized in that it comprises~~ Claim 14, comprising a sensor (~~70~~) for measuring an operating temperature of the battery (~~40~~).

24. (Currently amended) The device according to ~~one or more of Claims 14 to 23, characterized in that it comprises~~ Claim 14, comprising a sensor (~~60~~) for measuring the intensity of a direct current flowing through the battery (~~40~~).

25. (Currently amended) The device according to ~~one or more of Claims 14 to 24, characterized in that~~ Claim 14, wherein the calculation unit (~~120~~) comprises calculation specifications for ~~the assignment of~~ assigning the transition frequency (~~$f_\pm$~~) to the state-of-charge of the battery (~~40~~) for several operating temperatures of the battery (~~40~~).

26. (Currently amended) The device according to ~~one or more of Claims 14 to 25, characterized in that~~ Claim 14, wherein the calculation unit (~~120~~) comprises calculation specifications for ~~the assignment of~~ assigning the transition frequency (~~$f_\pm$~~) to the state-of-charge of the battery (~~40~~) for several intensities of the direct current flowing through the battery (~~40~~).

27. (Currently amended) The device according to ~~one or more of Claims 14 to 26, characterized in that~~ Claim 14, wherein the calculation unit (~~120~~) comprises calculation specifications for ~~the assignment of~~ assigning the transition frequency (~~$f_\pm$~~) to the state-of-charge of the battery (~~40~~) for several aging status of the battery (~~40~~).

28. (Currently amended) The device according to ~~one or more of Claims 14 to 27, characterized in that it comprises~~ Claim 14, comprising a display device ~~(130)~~ for displaying the state-of-charge ~~(SOC)~~ of the battery.